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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,227	05/29/2001	Thomas Z. Fu	IP 6037	5926

23566 7590 02/06/2003

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EXAMINER

DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 02/06/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/867,227

Applicant(s)

FU ET AL.

Examiner

Tamra L. Dicus

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6, 15-24 and 34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15-24 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 3, and 4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification is absent from describing the exact hydrophilic polymer melt. Only referring to the fact that 3M manufactures this trade named polymer is not enough to lead on skilled in the art to make the invention claimed. The Examiner strongly suggests sending in 3M's trade name literature on this specific resin.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear as to what a hydrophilic polymer melt additive is, as the specification is absent from such an explanation. Hence, all claims directed toward the aforementioned additive are unclear.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 3, and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,443,727 to Gagnon.

Gagnon teaches a receptive media for permanent imaging (including ink receptive media –col. 10, lines 8-20), comprising a microporous polymeric film (Examples 1, 2, 11, 12, 13, and 15), a hydrophilic polymer (PVA or PVTFA at col. 2, lines 46-65 and Examples 1, 2, 4, and 10 - encompasses hydrophilic polymer melt additive) and a polymer such as PP as in Example 6, PE as in Example 10, 13, and 14.

Regarding claim 3, Gagnon teaches a microporous film having a surfactant coating being saturated with the hydrophilic polymer PVTFA in Example 11 and col. 1, lines 55-68.

Gagnon teaches in Table 2 the weight percentages from 1-12 wt % as in claim 4.



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Regarding claim 6, Gagnon teaches at col. 31, lines 9-37 a substrate laminated to the microporous polymeric film. See also col. 33, lines 39-55.

7. Claims 1, 3, and 4-6 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,132,849 to Gagnon.

Gagnon teaches a receptive media for permanent imaging (including ink jets –col. 17, lines 17-32), comprising a microporous polymeric film (Examples 1, 2, 11, 12, 13, and 15), a hydrophilic polymer (PVA or PVTFA at col. 3, lines 58-66 and Examples 1 and 2, encompasses hydrophilic polymer melt additive) and a polymer such as PP as in Example 6, PE as in Example 13 and 14. See also col. 9, lines 25-30, 40-60, col. 5, lines 23-45.

Regarding claim 3, Gagnon teaches a microporous film having a surfactant coating being saturated with the hydrophilic polymer PVTFA in Example 11 and col. 1, lines 55-68.

Gagnon teaches in Table 2 the weight percentages from 1-12 wt % as in claim 4.

Regarding claim 6, Gagnon teaches at col. 19, line 49 a substrate laminated to the microporous polymeric film.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,326,391 to Anderson.

Anderson teaches a microporous material/film for receiving ink comprising organic surface active agents that may be hydrophilic (hydrophilic polymer melt additive) comprising a polymer such as PE. (surfactant-claim 3) at col. 1, lines 58-68 and Table 2. See also col. 13, lines 55-65.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,132,849 to Gagnon.

Gagnon teaches an ink receiving media as above. Gagnon does not state the thickness in the range of 1 to 3 mils. However, it would have been obvious to one of ordinary skill in the art to produce a thickness in the range of 1 to 3 mils, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness of a polymeric film affects the strength.

11. Claims 15-24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,605,750 to Romano in view of USPN 6,132,849 to Gagnon and USPN 6,379,780 to Laney et al.

Romano teaches a microporous ink receiving media comprising a microporous polymeric sheet/film that may be stretched at col. 12, lines 8-24 (claim 34) where a microparticle coating is applied on one side of the film (claims 15 and 34). See col. 5, lines 6-35, col. 18, lines 55-68, and col. 3, line 24. Romano teaches it is also known to add polyurethane (PU) at col. 3, line 41, (claim 18). A substrate is laminated to the microporous film at col. 2, lines 25-39 and col. 3, lines 18-23 (claim 24). Romano teaches a microparticle coating further comprising well known

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additives of claims 22 and 23 such as a plasticizer and a fluorocarbon surfactant at col. 2, line 46 and col. 8, line 60.

Although Romano teaches the film may comprise particles such as silica and alumina at col. 6, lines 54-62 (meeting claim 34's limitation of a submicron particle), Romano does not specifically state the particles being colloidal. However, Laney teaches an image-recording element that is biaxially stretched (inclusive of microporous) and comprising colloidal silica and alumina as suitable additives at col. 4, lines 25-32, col. 7, lines 1-5, and col. 10, lines 19-24 for adjusting the hydrophilic-hydrophobic balance. See also col. 11, lines 20-40. Hence it would have been obvious to one of ordinary skill in the art to modify the microporous sheet of Romano to include a microparticle/submicron particle coating containing colloidal silica or alumina since Laney teaches doing so provides a way to adjust the hydrophilic-hydrophobic balance.

Romano does not teach adding PVA. However, Gagnon teaches adding PVA at col. 2, lines 37, among other additives already mentioned, plasticizers and PU on a PP substrate at Example 22 (claim 21). Hence it would have been obvious to one of ordinary skill in the art to modify the sheet of Romano to further include PVA since Gagnon teaches PVA has excellent hydrophilicity at col. 2, line 41.

Romano does not teach adding a crosslinking agent, However Gagnon teaches it is known to crosslink PVA using a crosslinking agent at col. 2, lines 15-46 for providing permanent hydrophilic coatings on hydrophobic microporous films at col. 2, lines 15-17. Hence it would have been obvious to one of ordinary skill in the art to modify the sheet of Romano to further include crosslinking agents for the purpose of providing permanent hydrophilic coatings on hydrophobic microporous films as taught by Gagnon at col. 2, lines 15-17.

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Regarding the weight percent of the colloidal particles being greater than the binder, such adjustment only involves routine skill in the art and is optimizable. The size of the particles directly affects the ink absorption.

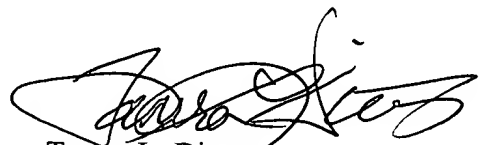
### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,171,751 to Mourey et al. teaches an imaging element comprising a polyolefin biaxially oriented sheet comprising a polymer and PVA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus

Examiner

Art Unit 1774 CYNTHIA M. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

February 3, 2003

